

10/660, 738

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S1	142	(substrate or support) NEAR4 mercapto	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/11/16 12:05
S2	22	S1 and sulfonate	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/11/16 12:09
S3	17	S2 and link\$3	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/11/16 12:09
S4	12	S3 and hetero\$8	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/11/16 13:12
S5	2	("5563056").PN.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2005/11/16 13:14
S15	3	"2001083515"	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/11/16 14:20
S16	1	WO adj "200183515"	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/11/16 14:34
S17	4	"6572767"	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/11/16 14:34

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L4	19	bifunctional adj (linker or reagent) same (mercapto or mercapto\$1containing)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/11/17 07:08
L7	6	l4 and epoxide	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/11/17 07:21
L8	3	linker NEAR mercapto same epoxide	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/11/17 07:11
L9	44	mercapto NEAR2 polyethylene	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/11/17 07:22
L10	14	mercapto NEAR1 polyethylene	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/11/17 07:41
L11	279	tubular and 422/70;436/161-162. ccls.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/11/17 07:44
L12	155	l11 and inlet and outlet	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/11/17 07:44
L13	6	l12 and (porous adj membrane)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/11/17 07:46

L14	98	l12 and (bed or bead\$1 or particle\$1)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/11/17 08:02
L15	0	composite adj chromatography same (fluid adj control)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/11/17 07:57
L16	15	composite adj chromatography	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/11/17 07:57
L17	4	l14 and fluid adj control	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/11/17 08:02

10/660,738

Connecting via Winsock to STN

Welcome to STN International! Enter x:x

LOGINID:SSSPTASXH1641

PASSWORD:

TERMINAL (ENTER 1, 2, 3, OR ?):2

* * * * * Welcome to STN International * * * * *

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NEWS	3	JUL 20	Powerful new interactive analysis and visualization software, STN AnaVist, now available
NEWS	4	AUG 11	STN AnaVist workshops to be held in North America
NEWS	5	AUG 30	CA/CAPLUS - Increased access to 19th century research documents
NEWS	6	AUG 30	CASREACT - Enhanced with displayable reaction conditions
NEWS	7	SEP 09	ACD predicted properties enhanced in REGISTRY/ZREGISTRY
NEWS	8	OCT 03	MATHDI removed from STN
NEWS	9	OCT 04	CA/CAPLUS-Canadian Intellectual Property Office (CIPO) added to core patent offices
NEWS	10	OCT 06	STN AnaVist workshops to be held in North America
NEWS	11	OCT 13	New CAS Information Use Policies Effective October 17, 2005
NEWS	12	OCT 17	STN(R) AnaVist(TM), Version 1.01, allows the export/download of CAPLUS documents for use in third-party analysis and visualization tools
NEWS	13	OCT 27	Free KWIC format extended in full-text databases
NEWS	14	OCT 27	DIOGENES content streamlined
NEWS	15	OCT 27	EPFULL enhanced with additional content
NEWS	16	NOV 14	CA/CAPLUS - Expanded coverage of German academic research
NEWS EXPRESS		JUNE 13	CURRENT WINDOWS VERSION IS V8.0, CURRENT MACINTOSH VERSION IS V6.0c(ENG) AND V6.0Jc(JP), AND CURRENT DISCOVER FILE IS DATED 13 JUNE 2005
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NEWS PHONE			Direct Dial and Telecommunication Network Access to STN
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FILE 'HOME' ENTERED AT 13:26:34 ON 16 NOV 2005

=>

Uploading

THIS COMMAND NOT AVAILABLE IN THE CURRENT FILE

Do you want to switch to the Registry File?

Choice (Y/n):

Switching to the Registry File...

Some commands only work in certain files. For example, the EXPAND command can only be used to look at the index in a file which has an index. Enter "HELP COMMANDS" at an arrow prompt (=>) for a list of commands which can be used in this file.

=> FILE REGISTRY

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	0.21	0.21

FILE 'REGISTRY' ENTERED AT 13:26:45 ON 16 NOV 2005
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Property values tagged with IC are from the ZIC/VINITI data file provided by InfoChem.

STRUCTURE FILE UPDATES: 15 NOV 2005 HIGHEST RN 868125-94-4
DICTIONARY FILE UPDATES: 15 NOV 2005 HIGHEST RN 868125-94-4

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TSCA INFORMATION NOW CURRENT THROUGH JULY 14, 2005

Please note that search-term pricing does apply when conducting SmartSELECT searches.

*
* The CA roles and document type information have been removed from *
* the IDE default display format and the ED field has been added, *
* effective March 20, 2005. A new display format, IDERL, is now *
* available and contains the CA role and document type information. *
*

Structure search iteration limits have been increased. See HELP SLIMITS for details.

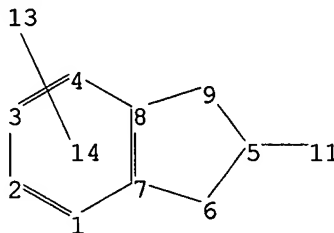
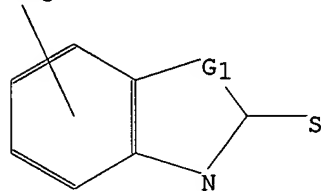
REGISTRY includes numerically searchable data for experimental and predicted properties as well as tags indicating availability of experimental property data in the original document. For information on property searching in REGISTRY, refer to:

<http://www.cas.org/ONLINE/UG/regprops.html>

=>

Uploading C:\Program Files\Stnexp\Queries\10660738.str

SO₃H



```

chain nodes :
11 13
ring nodes :
1 2 3 4 5 6 7 8 9
chain bonds :
5-11
ring bonds :
1-2 1-7 2-3 3-4 4-8 5-6 5-9 6-7 7-8 8-9
exact/norm bonds :
5-6 5-9 5-11 6-7 8-9
normalized bonds :
1-2 1-7 2-3 3-4 4-8 7-8
isolated ring systems :
containing 1 :

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G1:O,S,N

Match level :

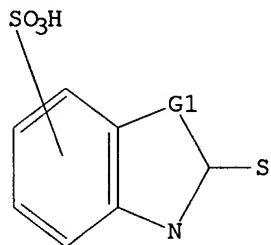
1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:Atom 8:Atom 9:Atom 11:CLASS
13:CLASS 14:CLASS

L1 STRUCTURE UPLOADED

=> d 11

L1 HAS NO ANSWERS

L1 STR



G1 O,S,N

Structure attributes must be viewed using STN Express query preparation.

=> s 11

SAMPLE SEARCH INITIATED 13:27:00 FILE 'REGISTRY'

SAMPLE SCREEN SEARCH COMPLETED - 92 TO ITERATE

100.0% PROCESSED 92 ITERATIONS

7 ANSWERS

SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE **COMPLETE**
BATCH **COMPLETE**

PROJECTED ITERATIONS: 1265 TO 2415

PROJECTED ANSWERS: 7 TO 298

L2 7 SEA SSS SAM L1

=> s 12 sss full

FULL SEARCH INITIATED 13:27:15 FILE 'REGISTRY'

FULL SCREEN SEARCH COMPLETED - 1663 TO ITERATE

100.0% PROCESSED 1663 ITERATIONS 169 ANSWERS
SEARCH TIME: 00.00.01

L3 169 SEA SSS FUL L1

=> s l1 sss full
FULL SEARCH INITIATED 13:27:22 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED - 1663 TO ITERATE

100.0% PROCESSED 1663 ITERATIONS 169 ANSWERS
SEARCH TIME: 00.00.01

L4 169 SEA SSS FUL L1

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	322.23	322.44

FILE 'CAPLUS' ENTERED AT 13:27:29 ON 16 NOV 2005
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FILE COVERS 1907 - 16 Nov 2005 VOL 143 ISS 21
FILE LAST UPDATED: 15 Nov 2005 (20051115/ED)

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<http://www.cas.org/infopolicy.html>

=> s l3
L5 367 L3

=> s l3 and (chromatography or column)
367 L3
306573 CHROMATOGRAPHY
154 CHROMATOGRAPHIES
306685 CHROMATOGRAPHY
(CHROMATOGRAPHY OR CHROMATOGRAPHIES)
601257 CHROMATOG
3297 CHROMATOGRS
603643 CHROMATOG
(CHROMATOG OR CHROMATOGRS)
695833 CHROMATOGRAPHY
(CHROMATOGRAPHY OR CHROMATOG)
389806 COLUMN
101241 COLUMNS
439619 COLUMN
(COLUMN OR COLUMNS)

L6

2 L3 AND (CHROMATOGRAPHY OR COLUMN)

=> d l6 ibib abs hitstr tot

L6 ANSWER 1 OF 2 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2005:146993 CAPLUS

DOCUMENT NUMBER: 142:351638

TITLE: Capture of a monoclonal antibody and prediction of separation conditions using a synthetic multimodal ligand attached on chips and beads

AUTHOR(S): Brenac, Virginie; Ravault, Vincent; Santambien, Patrick; Boschetti, Egisto

CORPORATE SOURCE: BioSeptra, BioSeptra, Process Proteomics, Division of CIPHERGEN Biosystems Inc., Cergy Pontoise, 95804, Fr.

SOURCE: Journal of Chromatography, B: Analytical Technologies in the Biomedical and Life Sciences (2005), 818(1), 61-66

CODEN: JCBAAI; ISSN: 1570-0232

PUBLISHER: Elsevier B.V.

DOCUMENT TYPE: Journal

LANGUAGE: English

AB A synthetic ligand called 2-mercapto-5-benzimidazolesulfonic acid has been successfully used for the specific **chromatog.** capture of antibodies from a cell culture supernatant. Adsorption occurred at physiol. ionic strength and pH range between 5.0 and 6.0, with some binding capacity variations within this pH range: antibody uptake increased when the pH decreased. With very dilute feedstocks, as was the case with the cell culture supernatant under investigation, it was found that the pH had to be slightly lowered to get a good antibody sorption capacity. To optimize separation conditions, a preliminary study was made using ProteinChip Arrays that displayed the same chemical functionalities as the resin. Arrays were analyzed using SELDI-MS. By this mean, it was possible to cross-over simultaneously different pH conditions at the adsorption and the desorption steps. Best conditions were implemented for preparative separation using regular lab-scale **columns**. At pH 5.2, antibody adsorption was not complete, while at pH 5.0 the antibody was entirely captured. pH 9 was selected at elution, rather than pH 8.0 or 10.0, and resulted in a complete desorption of antibodies from the **column**. Benefits of the prediction of separation conditions of antibodies on MBI beads using SELDI-MS were a significant reduction in anal. time and in sample volume This was possible because the separation of IgG on the chip surface did mimic very well the separation on beads.

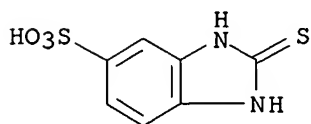
IT 58089-27-3, 2-Mercapto-5-benzimidazolesulfonic acid

RL: ARU (Analytical role, unclassified); PEP (Physical, engineering or chemical process); PYP (Physical process); ANST (Analytical study); PROC (Process)

(capturing ligand; capture of a monoclonal antibody and prediction of separation conditions using synthetic multimodal ligand attached on chips and beads)

RN 58089-27-3 CAPLUS

CN 1H-Benzimidazole-5-sulfonic acid, 2,3-dihydro-2-thioxo- (9CI) (CA INDEX NAME)



REFERENCE COUNT:

19

THERE ARE 19 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 2 OF 2 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2004:540175 CAPLUS

DOCUMENT NUMBER: 141:187294

TITLE: 2-Mercapto-5-benzimidazolesulfonic acid: an effective multimodal ligand for the separation of antibodies
AUTHOR(S): Girot, Pierre; Averty, Emmanuelle; Flayeux, Isabelle; Boschetti, E.

CORPORATE SOURCE: BioSeptra s.a., CIPHERGEN Biosystems, Cergy Pontoise, 95800, Fr.

SOURCE: Journal of Chromatography, B: Analytical Technologies in the Biomedical and Life Sciences (2004), 808(1), 25-33

CODEN: JCBAAI; ISSN: 1570-0232

PUBLISHER: Elsevier B.V.

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The report describes the use of 2-mercapto-5-benzimidazolesulfonic acid (MBISA) as a ligand for the separation of antibodies by **chromatog.** The ligand shows a relatively specific adsorption property for antibodies from very crude biologicals at pH 5.0-5.5. At this pH range most of other proteins do not interact with the resin especially when the ionic strength is similar to physiol. conditions. Several characterization studies are described such as antibody adsorption in different conditions of ionic strength, pH and temperature. These properties are advantageously used to selectively capture antibodies from very crude feed stocks without dilution or addition of lyotropic salts. Demonstration was made that the adsorption mechanism is neither based on ion exchange nor on hydrophobic assocns., but rather as an assembly of a variety of properties of the ligand itself. Binding capacity in the described conditions ranges between 25 and 30 mg/mL of resin. The sorbent does not co-adsorb albumin (Alb) and seems compatible with a large variety of feedstocks. Quant. antibody desorption occurs when the pH is raised above 8.5. The final purity of the antibody depends on the nature of the feedstock, and can reach levels of purity as high as 98%. Even with very crude biol. liqs. such as ascites fluids, cell culture supernatants and Chon fraction II + III from human plasma fractionation where the number of protein impurities is particularly large, Igs G (IgG) were separated at high purity level in a single step.

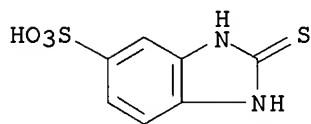
IT 58089-27-3, 2-Mercapto-5-benzimidazolesulfonic acid

RL: ARU (Analytical role, unclassified); ANST (Analytical study)

(2-Mercapto-5-benzimidazolesulfonic acid multimodal ligand for separation of antibodies)

RN 58089-27-3 CAPLUS

CN 1H-Benzimidazole-5-sulfonic acid, 2,3-dihydro-2-thioxo- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 27 THERE ARE 27 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> s 15 and (chromatography or column)

306573 CHROMATOGRAPHY

154 CHROMATOGRAPHIES

306685 CHROMATOGRAPHY

(CHROMATOGRAPHY OR CHROMATOGRAPHIES)

601257 CHROMATOG

```

        3297 CHROMATOGS
        603643 CHROMATOG
            (CHROMATOG OR CHROMATOGS)
        695833 CHROMATOGRAPHY
            (CHROMATOGRAPHY OR CHROMATOG)
        389806 COLUMN
        101241 COLUMNS
        439619 COLUMN
            (COLUMN OR COLUMNS)
L7          2 L5 AND (CHROMATOGRAPHY OR COLUMN)

=> dup rem 16 17
PROCESSING COMPLETED FOR L6
PROCESSING COMPLETED FOR L7
L8          2 DUP REM L6 L7 (2 DUPLICATES REMOVED)
            ANSWERS '1-2' FROM FILE CAPLUS

=> s 15 and (support or substrate)
        430783 SUPPORT
        120628 SUPPORTS
        511920 SUPPORT
            (SUPPORT OR SUPPORTS)
        833071 SUBSTRATE
        382138 SUBSTRATES
        1040456 SUBSTRATE
            (SUBSTRATE OR SUBSTRATES)
L9          122 L5 AND (SUPPORT OR SUBSTRATE)

=> s 19 and column
        389806 COLUMN
        101241 COLUMNS
        439619 COLUMN
            (COLUMN OR COLUMNS)
L10         0 L9 AND COLUMN

=> s 19 and solid (support or substrate)
MISSING OPERATOR 'SOLID (SUPPORT'
The search profile that was entered contains terms or
nested terms that are not separated by a logical operator.

=> s 19 and solid
        988083 SOLID
        278028 SOLIDS
        1193478 SOLID
            (SOLID OR SOLIDS)
L11         0 L9 AND SOLID

=> s 15 and (chromatograph? or column?)
        397385 CHROMATOGRAPH?
        601257 CHROMATOG
            3297 CHROMATOGS
        603643 CHROMATOG
            (CHROMATOG OR CHROMATOGS)
        744364 CHROMATOGRAPH?
            (CHROMATOGRAPH? OR CHROMATOG)
        456952 COLUMN?
L12         2 L5 AND (CHROMATOGRAPH? OR COLUMN?)

=> s 15 and (plate or slide)
        324869 PLATE
        214239 PLATES
        458445 PLATE
            (PLATE OR PLATES)

```

16229 SLIDE
11009 SLIDES
25250 SLIDE

(SLIDE OR SLIDES)

L13 30 L5 AND (PLATE OR SLIDE)

=> l13 and cellulose

L13 IS NOT A RECOGNIZED COMMAND

The previous command name entered was not recognized by the system.

For a list of commands available to you in the current file, enter
"HELP COMMANDS" at an arrow prompt (=>).

=> s l13 and cellulose

331835 CELLULOSE

4219 CELLULOSES

332317 CELLULOSE

(CELLULOSE OR CELLULOSES)

L14 1 L13 AND CELLULOSE

=> d l14 ibib abs hitstr tot

L14 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1993:23861 CAPLUS

DOCUMENT NUMBER: 118:23861

TITLE: Anticorrosive dampening water compositions for
lithographic printing apparatus

INVENTOR(S): Matsumoto, Hiroshi; Kunichika, Kenji; Uchida, Toshio

PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan

SOURCE: Can. Pat. Appl., 31 pp.

CODEN: CPXXEB

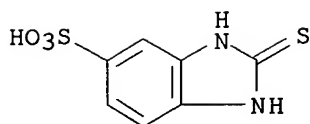
DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	---	-----	-----	-----
CA 2053554	AA	19920426	CA 1991-2053554	19911016
US 5165344	A	19921124	US 1991-780202	19911022
PRIORITY APPLN. INFO.:			JP 1990-288244	A 19901025
OTHER SOURCE(S):	MARPAT 118:23861			
AB	Title compns. contain hydrophilic film-forming polymers, pH buffers, and benzimidazole derivs. Thus, an aqueous composition containing gum arabic 0.015, Mg(NO3)2 0.3, H3PO4 0.13, monoammonium citrate 0.13, benzimidazole 0.003, and iso-PrOH 10% was adjusted with KOH to pH 5.0-5.5 and showed good anticorrosion on Cu, brass, steel, and (ni-plated) cast iron. Lithog. printing with the use of the composition as dampening water gave a ≥104 smudge-resistant copies and no contamination to the metering rolls.			
IT	53918-03-9 , Sodium 2-mercaptobenzimidazole-5-sulfonate			
RL: USES (Uses)	(dampening water compns. containing, anticorrosive, for lithog. plates)			
RN	53918-03-9 CAPLUS			
CN	1H-Benzimidazole-5-sulfonic acid, 2,3-dihydro-2-thioxo-, monosodium salt (9CI) (CA INDEX NAME)			



● Na

```
=> s l5 and separation
    187870 SEPARATION
      7143 SEPARATIONS
    193825 SEPARATION
          (SEPARATION OR SEPARATIONS)
    556145 SEPN
      36053 SEPNS
    574381 SEPN
          (SEPN OR SEPNS)
    626833 SEPARATION
          (SEPARATION OR SEPN)
L15          5 L5 AND SEPARATION
```

=> d l15 ibib abs hitstr tot

L15 ANSWER 1 OF 5 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2005:146993 CAPLUS

DOCUMENT NUMBER: 142:351638

TITLE: Capture of a monoclonal antibody and prediction of **separation** conditions using a synthetic multimodal ligand attached on chips and beads

AUTHOR(S): Brenac, Virginie; Ravault, Vincent; Santambien, Patrick; Boschetti, Egisto

CORPORATE SOURCE: BioSeptra, BioSeptra, Process Proteomics, Division of CIPHERGEN Biosystems Inc., Cergy Pontoise, 95804, Fr.

SOURCE: Journal of Chromatography, B: Analytical Technologies in the Biomedical and Life Sciences (2005), 818(1), 61-66

CODEN: JCBAAI; ISSN: 1570-0232

PUBLISHER: Elsevier B.V.

DOCUMENT TYPE: Journal

LANGUAGE: English

AB A synthetic ligand called 2-mercapto-5-benzimidazolesulfonic acid has been successfully used for the specific chromatog. capture of antibodies from a cell culture supernatant. Adsorption occurred at physiol. ionic strength and pH range between 5.0 and 6.0, with some binding capacity variations within this pH range: antibody uptake increased when the pH decreased. With very dilute feedstocks, as was the case with the cell culture supernatant under investigation, it was found that the pH had to be slightly lowered to get a good antibody sorption capacity. To optimize **separation** conditions, a preliminary study was made using ProteinChip Arrays that displayed the same chemical functionalities as the resin. Arrays were analyzed using SELDI-MS. By this mean, it was possible to cross-over simultaneously different pH conditions at the adsorption and the desorption steps. Best conditions were implemented for preparative **separation** using regular lab-scale columns. At pH 5.2, antibody adsorption was not complete, while at pH 5.0 the antibody was entirely captured. pH 9 was selected at elution, rather than pH 8.0 or 10.0, and resulted in a complete desorption of antibodies from the column. Benefits

of the prediction of **separation** conditions of antibodies on MBI beads using SELDI-MS were a significant reduction in anal. time and in sample volume. This was possible because the **separation** of IgG on the chip surface did mimic very well the **separation** on beads.

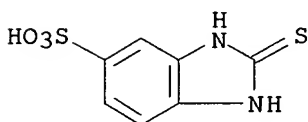
IT 58089-27-3, 2-Mercapto-5-benzimidazolesulfonic acid

RL: ARU (Analytical role, unclassified); PEP (Physical, engineering or chemical process); PYP (Physical process); ANST (Analytical study); PROC (Process)

(capturing ligand; capture of a monoclonal antibody and prediction of **separation** conditions using synthetic multimodal ligand attached on chips and beads)

RN 58089-27-3 CAPLUS

CN 1H-Benzimidazole-5-sulfonic acid, 2,3-dihydro-2-thioxo- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 19 THERE ARE 19 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L15 ANSWER 2 OF 5 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2004:540175 CAPLUS

DOCUMENT NUMBER: 141:187294

TITLE: 2-Mercapto-5-benzimidazolesulfonic acid: an effective multimodal ligand for the **separation** of antibodies

AUTHOR(S): Girot, Pierre; Averty, Emmanuelle; Flayeux, Isabelle; Boschetti, E.

CORPORATE SOURCE: BioSeptra s.a., CIPHERGEN Biosystems, Cergy Pontoise, 95800, Fr.

SOURCE: Journal of Chromatography, B: Analytical Technologies in the Biomedical and Life Sciences (2004), 808(1), 25-33

CODEN: JCBAAI; ISSN: 1570-0232

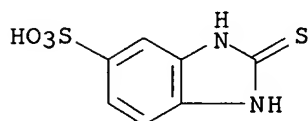
PUBLISHER: Elsevier B.V.

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The report describes the use of 2-mercapto-5-benzimidazolesulfonic acid (MBISA) as a ligand for the **separation** of antibodies by chromatog. The ligand shows a relatively specific adsorption property for antibodies from very crude biologicals at pH 5.0-5.5. At this pH range most of other proteins do not interact with the resin especially when the ionic strength is similar to physiol. conditions. Several characterization studies are described such as antibody adsorption in different conditions of ionic strength, pH and temperature. These properties are advantageously used to selectively capture antibodies from very crude feed stocks without dilution or addition of lyotropic salts. Demonstration was made that the adsorption mechanism is neither based on ion exchange nor on hydrophobic assocns., but rather as an assembly of a variety of properties of the ligand itself. Binding capacity in the described conditions ranges between 25 and 30 mg/mL of resin. The sorbent does not co-adsorb albumin (Alb) and seems compatible with a large variety of feedstocks. Quant. antibody desorption occurs when the pH is raised above 8.5. The final purity of the antibody depends on the nature of the feedstock, and can reach levels of purity as high as 98%. Even with very crude biol. liqs. such as ascites fluids, cell culture supernatants and Chon fraction II + III from human plasma fractionation where the number of protein impurities is particularly large, Igs G (IgG) were separated at high purity level in a single step.

IT 58089-27-3, 2-Mercapto-5-benzimidazolesulfonic acid
 RL: ARU (Analytical role, unclassified); ANST (Analytical study)
 (2-Mercapto-5-benzimidazolesulfonic acid multimodal ligand for
 separation of antibodies)
 RN 58089-27-3 CAPLUS
 CN 1H-Benzimidazole-5-sulfonic acid, 2,3-dihydro-2-thioxo- (9CI) (CA INDEX
 NAME)



REFERENCE COUNT: 27 THERE ARE 27 CITED REFERENCES AVAILABLE FOR THIS
 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L15 ANSWER 3 OF 5 CAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 2001:816695 CAPLUS
 DOCUMENT NUMBER: 135:354990
 TITLE: Simulated activity of protein A displayed by ligands
 attached to a cellulose bead surface for affinity
 purification of proteins
 INVENTOR(S): Stipanovic, Bozidar; Griffin, Martin; Scarpa, Ioannis
 PATENT ASSIGNEE(S): Accurate Polymers, Inc., USA
 SOURCE: PCT Int. Appl., 23 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001083515	A2	20011108	WO 2001-US13970	20010430
WO 2001083515	A3	20020704		
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG			
CA 2407276	AA	20011108	CA 2001-2407276	20010430
US 2001045384	A1	20011129	US 2001-846471	20010430
US 6572767	B2	20030603		
EP 1276557	A2	20030122	EP 2001-932794	20010430
R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR			
US 2003209491	A1	20031113	US 2003-410531	20030408
US 6919021	B2	20050719		
PRIORITY APPLN. INFO.:			US 2000-200591P	P 20000428
			US 2001-846471	A3 20010430
			WO 2001-US13970	W 20010430
AB	A method and compound for the purification of proteins includes the attachment to a support matrix of a non-peptidic, small compound which simulates the affinity of protein A for Igs. Once attached on the support matrix, the resulting monochloro-triazine derivative is reacted with an excess of an amino			

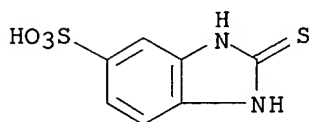
compound at a higher temperature to achieve high levels of substitution. The resulting support matrix with ligand is useful in the affinity **sepn.** of antibodies. Further, a mercapto heterocyclic system ligand may be attached to the super matrix and is useful in affinity **sepn.** of antibodies. Orbicell beads having a primary or secondary amino group were reacted with triepoxide and then with thioimidazol to make beads for isolating IgY from egg yolk.

IT 53918-03-9

RL: RCT (Reactant); RACT (Reactant or reagent)
(simulated activity of protein A displayed by ligands attached to cellulose bead surface for affinity purification of proteins)

RN 53918-03-9 CAPLUS

CN 1H-Benzimidazole-5-sulfonic acid, 2,3-dihydro-2-thioxo-, monosodium salt (9CI) (CA INDEX NAME)



● Na

L15 ANSWER 4 OF 5 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1987:544829 CAPLUS

DOCUMENT NUMBER: 107:144829

TITLE: Silver salt diffusion-transfer reversal process

INVENTOR(S): De Keyzer, Rene Maria; Vermeulen, Leon Louis; Pollet, Robert Joseph

PATENT ASSIGNEE(S): Agfa-Gevaert N. V., Belg.

SOURCE: Eur. Pat. Appl., 17 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 218753	A1	19870422	EP 1985-201654	19851010
EP 218753	B1	19890809		
R: AT, BE, CH, DE, FR, GB, IT, LI, LU, NL, SE				
JP 62098350	A2	19870507	JP 1986-240163	19861008
JP 2515110	B2	19960710		
US 4720447	A	19880119	US 1986-917107	19861009
PRIORITY APPLN. INFO.:			EP 1985-201654	A 19851010

GI For diagram(s), see printed CA Issue.

AB Image transfer in the photog. Ag salt diffusion-transfer reversal process is carried out in the presence of ≥ 1 heterocyclic azole compound of the general formula I or II (A = atoms for forming a heterocycle; Z = a chemical bond, $\text{SmZ}_1\text{Z}_2\text{n}$ where Z_1 = (substituted) alkylene, arylene, alkenylene; Z_2 = S, Se, NR1 where R1 = H, alkyl; m, n = 0, 1; R = alkyl, alkenyl, aryl, heterocyclyl). The azole compound may be contained in an image-receiving layer and/or in an alkaline processing solution and affects the d. and tone of the transferred images. Thus, a polyethylene-laminated paper support was coated with a AgCl emulsion layer, overcoated with a top layer from a composition of H₂O, hydroxyethylated starch, EtOH, 1-phenyl-3-pyrazolidone, hydroquinone, and HCHO, imagewise exposed,

moistened with a processing solution containing Na₃PO₄, Na₂SO₃, and Na₂S₂O₃ and contacted with an image-receiving sheet coated with a composition containing gelatin, Ag₂S/Ni sulfide development nuclei, saponin, HCHO, iso-C₈H₁₇-p-C₆H₄O(CH₂CH₂O)₈CH₂CO₂Na, and 2-nonyl-5-sulfobenzimidazole (III). After separation of the contacting elements, the transmission d., the saturation d., and the reflection d. of the transferred images on the receptor were 3.01, 1.94, and 1.82, resp., vs. 3.35, 1.65, and 1.49, resp., for a control containing no III.

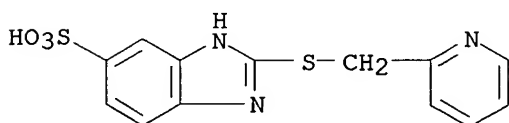
IT 28020-71-5, 2-(2-Pyridylmethylthio)-5-sulfobenzimidazole
 29490-12-8, 2-(2-Ethylthioethylthio)-5-sulfobenzimidazole
 88580-45-4, 2-(2-Dimethylaminoethylthio)-5-sulfobenzimidazole
 sodium salt 110537-49-0, Bis[2-(5-sulfo-2-benzimidazolylthio)ethyl]sulfide

RL: DEV (Device component use); USES (Uses)

(diffusion-transfer photog. films containing, for improved image d. and tone)

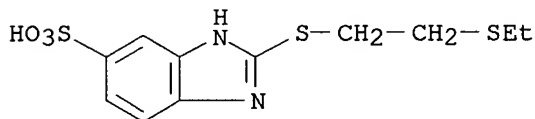
RN 28020-71-5 CAPLUS

CN 1H-Benzimidazole-5-sulfonic acid, 2-[(2-pyridinylmethyl)thio]- (9CI) (CA INDEX NAME)



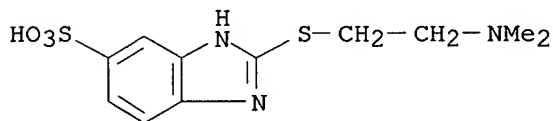
RN 29490-12-8 CAPLUS

CN 1H-Benzimidazole-5-sulfonic acid, 2-[[2-(ethylthio)ethyl]thio]- (9CI) (CA INDEX NAME)



RN 88580-45-4 CAPLUS

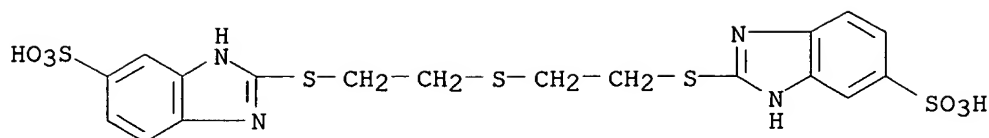
CN 1H-Benzimidazole-5-sulfonic acid, 2-[[2-(dimethylamino)ethyl]thio]-, monosodium salt (9CI) (CA INDEX NAME)



● Na

RN 110537-49-0 CAPLUS

CN 1H-Benzimidazole-5-sulfonic acid, 2,2'-[thiobis(2,1-ethanediythio)]bis- (9CI) (CA INDEX NAME)



L15 ANSWER 5 OF 5 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1976:52085 CAPLUS
 DOCUMENT NUMBER: 84:52085
 TITLE: Photographic color diffusion-transfer material
 INVENTOR(S): Matsuyama, Junichi; Ishiguro, Shoji; Adachi, Keiichi
 PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan
 SOURCE: Ger. Offen., 63 pp.
 CODEN: GWXXBX
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 2457896	A1	19750612	DE 1974-2457896	19741206
JP 50089034	A2	19750717	JP 1973-139234	19731207
GB 1475769	A	19770610	GB 1974-52922	19741206
			JP 1973-139234	A 19731207

PRIORITY APPLN. INFO.:

GI For diagram(s), see printed CA Issue.

AB The addition of a thiol or thione (I and II, resp.; R = H, CO₂H, SO₃H, Cl; R₁ = H, CO₂H, SO₃H; R₂ = H, alkoxy-carbonyl, carboxymethyl, benzyl, cyclohexylamino, NH₂COCH₂; R₃ = ethoxy-carbonyl, CO₂H, NaSO₃; R₄ = Me, PhCH₂; Z = NH, NMe, O, S, Se) to preferably all of the emulsion layers of a pos. diffusion-transfer photog. material gives color images of increased d., improved **separation**, and improved reproducibility. Thus, the addition of I (R = CO₂H; R₁, R₂ = H) at 1.22 g/mole Ag halide to the blue-sensitive emulsion layer of a color pos. diffusion-transfer photog. frilm gave, after processing in combination with an image-receptor sheet, cyan, magenta, and yellow d. values of 2.41, 2.27, and 2.30, resp., for a fresh film; 2.40, 2.25, and 2.25, resp., for a film stored 1 month at room temperature; and 2.30, 2.21, and 2.24, resp., for a film stored 7 days at 50° and 80% relative humidity vs. 2.08, 2.10, and 1.91, resp.; 1.70, 1.63, and 1.76, resp.; and 1.84, 1.48, and 1.60, resp., for a control containing 4-hydroxy-6-methyl-1,3,3a,7-tetraazaindene 1.50 g/mole Ag halide.

IT 23015-22-7 58089-26-2 58089-27-3

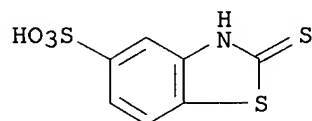
58089-28-4

RL: USES (Uses)

(photog. color diffusion-transfer emulsions containing, for improved image d.)

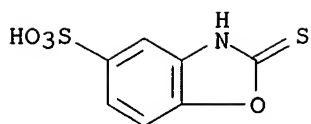
RN 23015-22-7 CAPLUS

CN 5-Benzothiazolesulfonic acid, 2,3-dihydro-2-thioxo- (9CI) (CA INDEX NAME)

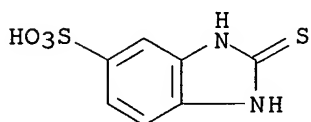


RN 58089-26-2 CAPLUS

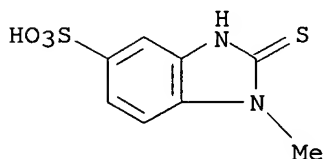
CN 5-Benzoxazolesulfonic acid, 2,3-dihydro-2-thioxo- (9CI) (CA INDEX NAME)



RN 58089-27-3 CAPLUS
 CN 1H-Benzimidazole-5-sulfonic acid, 2,3-dihydro-2-thioxo- (9CI) (CA INDEX NAME)



RN 58089-28-4 CAPLUS
 CN 1H-Benzimidazole-5-sulfonic acid, 2,3-dihydro-1-methyl-2-thioxo- (9CI) (CA INDEX NAME)



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COST IN U.S. DOLLARS

SINCE FILE	TOTAL
ENTRY	SESSION
80.83	403.27

FULL ESTIMATED COST

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)

SINCE FILE	TOTAL
ENTRY	SESSION
-5.84	-5.84

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STN INTERNATIONAL LOGOFF AT 13:47:17 ON 16 NOV 2005